New Course Form

For help filling out the form press F1 or look at the bottom of the screen. For additional instructions, see Course Form Instructions.

| Type of Action | New Course – Course not previously offered. |

1. Catalog Prefix and Number*: CIT192

2. Course Title: History of Computing

   Pilot Course Information:

   Are you requesting pilot status only at this time? Yes ☐ No ☒

   Implementation Date?

   Are you requesting pilot status in addition to regular approval process? Yes ☐ No ☒

   Implementation date? Fall or Spring? ☐ Year?

   Has this course been previously approved as pilot status Yes ☐ No ☒

3. Justification for requested action.

   All students would benefit from a history course exploring the technology and personalities involved in the development of modern computational devices. The course uses the modern computer as an end-point to tie together the seemingly disparate threats that came together in the 20th century resulting in our modern digital computer, the software that runs them, and the communication technologies that links them together. This course is being developed for inclusion on the general education heritage list.

   Course design considerations are discussed in:


4. Submitting Entity: Curriculum Committee:

   Or College: Bluegrass Community and Technical College

5. Person(s) Primarily Responsible for Proposal (Complete item only if course is not part of a curriculum package. Verify that members are still current and active prior to submission.):

<table>
<thead>
<tr>
<th>Name</th>
<th>Teaching Area</th>
<th>College</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dana Brown</td>
<td>Computer &amp; Information</td>
<td>BCTC</td>
</tr>
<tr>
<td></td>
<td>Technology</td>
<td></td>
</tr>
</tbody>
</table>

A100 2011-2012
Involvement of Others (Identify Individuals):

6. System Office Staff:

7. Others: Computer & Information Technology Curriculum Committee

8. Is this course offered at other colleges? Yes ☑️ No ☐
   If yes, have they been involved in the development of this course? Yes ☑️ No ☐

9. Is this course duplicative or similar to other courses offered by KCTCS? Yes ☐ No ☑️
   If yes, Justification:

10. Credit / Contact Hours:Minimum 3 Maximum 3
    10a. Semester Credit Hours: 45
    10b. Semester Contact Hours:

11. Grading Basis: Letter Grades ☑️ Pass/Fail ☐ Letter Grades/No GPA ☐

12. Repeat for additional credit: Yes ☐ No ☑️

If yes, complete the following:
Total credit earned in course:  
Total completions:

13. Open Entry – Open Exit: ☐ Yes ☒ No

14a. Components (Check all components that require scheduling. For each component that is checked, enter the credit hours and contact hours for each component that is checked.):

<table>
<thead>
<tr>
<th>Component</th>
<th>Credit</th>
<th>Contact</th>
<th>Component</th>
<th>Credit</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>☒ 3</td>
<td>45</td>
<td>Practicum</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Laboratory</td>
<td>☐</td>
<td></td>
<td>Co-Op</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Clinical</td>
<td>☐</td>
<td></td>
<td>Discussion</td>
<td>☐</td>
<td></td>
</tr>
</tbody>
</table>

OR

14b. Integrated Components (If components are integrated, and only one component (lecture or lab) needs scheduling, rather than both lecture and lab, complete this section.)

<table>
<thead>
<tr>
<th>Lecture/Lab</th>
<th>Lecture Credit</th>
<th>Lecture Contact</th>
<th>Lab Credit</th>
<th>Lab Contact</th>
</tr>
</thead>
</table>

15. Requisites:

Pre-requisite ☒ Yes ☐ No If yes, list: Completion of KCTCS Computer Literacy requirements or consent of instructor

Co-requisite ☐ Yes ☐ No If yes, list:

Pre-requisite ☐ Yes ☐ No If yes, list:

or Co-requisite

16. Implementation Term (Course scheduled to begin, ex. Fall 2012): Spring 2013

17. Proposed Course Description (Course description as it will appear in the catalog. Begin each statement with a verb.):

Explores the development and use of computational devices from the ancient world to the present. Students will discuss automatic calculation from the abacus to the integrated circuit; logic machines from Boole to neural networks; the evolution of programming from hardwiring the ENIAC to the development of distributed and mobile applications; and computers from Z3 to wherever the future takes us.
Course Proposal Rationale:

18. Will this course be a part of an approved curriculum/curricula? ☐ Yes ☒ No

If yes, which curriculum/curricula?
(Submit a New Curriculum or Revision Form)

Course Competencies and Delivery:

19. Proposed Course Competencies/Student Outcomes (If part of an organized curriculum, how does it relate to program competencies/outcomes? Begin statement with a capital letter and end with a period.):

Upon completion of this course, the student can:

1. Describe the development of modern computers from ancient times to modern.
2. Relate the development of computers to developments in other areas of science.
3. Relate the development of computers to social, political, military, and economic influences.
4. Recognize the contribution computer development has had on the sciences.
5. Recognize the effect computer development has had on society, politics, the military, and economics.
6. Describe the computer’s role in modern popular culture.

20. Course Outline (Two-level outline required. Although courses may have more than two levels, the third level is not necessary.)

I. Trends in Computer Development
   a. Problems in Computation
   b. Moore’s Law

II. Ancient Computational Devices
   a. Stones and clay tablets
   b. The abacus
   c. The Antikythera

III. The Middle Ages and Renaissance
   a. Al-Khwarismi
   b. Clocks
   c. Cannonballs

IV. Computational Devices of the 17th through 19th centuries
   a. Napier’s bones
   b. Slide rule
   c. Jacquard Loom
V. Charles Babbage
   a. Difference Engine
   b. Analytical Engine
   c. Ada Augusta

VI. Electricity
   a. Telephones
   b. Radios
   c. Vacuum Tubes
   d. Calculators

VII. First Generation Computers
   a. Z1
   b. ABC

VIII. Computers Go To War
   a. Mark I
   b. Enigma and Colossus
   c. ENIAC

IX. Computers Go Commercial
   a. Transistors
   b. UNIVAC
   c. PDP series
   d. IBM

X. The Personal Computer
   a. Integrated circuits and microprocessors
   b. MITS Altair
   c. Commodore, TI, and TRS, oh my!
   d. IBM PC
   e. Apple

XI. Computer Software Development
   a. Operating Systems
   b. Programming Languages
   c. Applications

XII. The Personalities
   a. Steve Jobs
   b. Bill Gates
   c. Vint Cerf
   d. Michael Dell
   e. Grace Hopper

XIII. Business – Success and Failure
   a. AT&T/Bell Labs
   b. IBM
   c. Microsoft
   d. Apple
XIV. The Computer in Popular Culture
   a. Metropolis, 2001: A Space Odyssey, War Games, and The Matrix
   b. Neuromancer, Do Androids Dream of Electric Sheep, Machines that Think, and The Girl with the Dragon Tatoo
   c. Computer music and computer graphics

XV. Modern Computing
   a. Miniaturization
   b. Convergence
   c. The Cloud

21. List of experiments/activities. (Courses with components other than lecture. e.g., laboratory, clinical, practicum, etc., must include a sample list of experiment topics or activities. Does not have to be all-inclusive.):

22. Indicate sample suggested classroom resources for course. (Should not have publishing date greater than five years.)

Example:

SUGGESTED LEARNING RESOURCES FOR THIS COURSE


22. Provide a rationale for using textbook/references older than five years.

The field of computer history does not generate a great number of textbooks, although it does generate quite a bit of literature, simulations, and online resources. The list above represents some of the more well-known resources in the field. Much of the more recent materials will come from the web.

23. May this course be used as an equivalent for other courses? Yes No x

If yes, please list.

Signatures: Complete and submit a signature page for every proposal.

*The System Office assigns new course numbers. Contact Mary Kleber at Mary.Kleber@kctcs.edu